

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 47

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANCOIS DELMAS

Appeal No. 1999-1810
Application 08/288,433

HEARD: NOVEMBER 27, 2001

Before KIMLIN, OWENS and DELMENDO, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's refusal to allow claims 1-5, 7-14 and 16-20 as amended after final rejection. Claim 15 stands objected to but allowable if rewritten in independent form, and claim 21, which was added after final rejection, stands allowable.

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THE INVENTION

The appellant's claimed invention is directed toward a process for purifying an aqueous alkali metal chloride solution containing contaminating amounts of iodide and ammonium, and toward the solution produced by this process. Claim 1, directed toward the process, is illustrative:

1. A process for the purification of an aqueous alkali metal chloride solution containing a contaminating amount of iodine in other than the periodate state, comprising (a) oxidizing the iodine therein to the periodate oxidation state of +7 and (b) then separating the periodate therefrom, said aqueous alkali metal chloride starting solution further comprising a contaminating amount of ammonium.

THE REFERENCES

Bissot	4,584,071	Apr. 22,
1986		

Filippone et al. (Filippone)	5,069,884	Dec. 3,
1991		

J.T. Keating et al. (Keating), "Treatment of Iodide-Containing Brines for Use in Membrane Choroalkali Electrolysis Cells", 307 Res. Discl. 795 (1989).

THE REJECTIONS

The claims stand rejected as follows: claims 18 and 20 under 35 U.S.C. § 112, fourth paragraph, as being of improper

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form for failing to further limit the subject matter of a previous claim; claims 16 and 17 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Bissot; claims 1, 4 and 5 under 35 U.S.C. § 103 as obvious over Keating in view of Filippone; and claims 1-5, 7-14 and 16-20 under 35 U.S.C. § 103 as obvious over Bissot in view of Keating and Filippone and over Keating in view of Bissot and Filippone.

OPINION

We reverse the rejection under 35 U.S.C. § 112, fourth paragraph, and affirm the other rejections.

The appellant indicates that the claims stand or fall together as to each rejection (brief, page 4). We therefore limit our discussion of each affirmed rejection to one claim, i.e., claim 16 for the rejections over Bissot and claim 1 for the rejections over Keating in view of Filippone and over the combined teachings of Bissot, Keating and Filippone.

Rejection of claims 18 and 20 under 35 U.S.C. § 112, fourth paragraph

Claim 20 depends from claim 18 which depends from independent claim 1. The examiner's rationale for rejecting

claims 18 and 20 under 35 U.S.C. § 112, fourth paragraph, is that the preamble of claim 1 states that the claimed process is a process for purifying an aqueous alkali metal chloride solution, and claims 18 and 20 recite processes for electrolyzing the solution produced by the process of claim 1 rather than further limiting the process for purifying the aqueous alkali metal chloride solution (answer, page 4). The fourth paragraph of § 112, however, does not require that a dependent claim must fall within the scope of the recited subject matter in the claim from which it depends but, rather, requires that the dependent claim must specify a further limitation of the subject matter of the claim from which it depends. Because the electrolysis step in claims 18 and 20 is a further limitation of the subject matter of claim 1, claims 18 and 20 are in compliance with 35 U.S.C. § 112, fourth paragraph. Consequently, we reverse the rejection of claims 18 and 20 under § 112, fourth paragraph.

Rejections of claim 16 over Bissot

The appellant discloses that the aqueous alkali metal chloride solutions which can be used in the process of their

claim 1 include brine (specification, page 4, lines 5-8; examples 1-4). Bissot indicates that very pure brine free from soluble iodine-containing salts is available (col. 2, lines 9-10) and, in example 1, discloses use of purified, saturated brine containing no detectable iodide (col. 9, lines 16-17 and 24-25). The teaching by Bissot that seawater contains 0.05 ppm iodine (col. 1, lines 17-18) indicates such a concentration of iodine is detectable and that, therefore, nondetectable levels of iodine are below 0.05 ppm.

The appellant argues that Bissot's disclosure of iodide-free brine is merely speculative because Bissot does not disclose how to make such a solution (brief, page 4). Bissot, however, does not speculate that iodide-free brine may be produced but, rather, indicates that it is available and uses it in an example. There is no indication in the reference that one of ordinary skill in the art could not make the iodide-free brine used by Bissot, and the appellant has provided no evidence to that effect. Accordingly, we are not persuaded by the appellant's argument.

The appellant argues that claim 16 is patentable over Bissot because Bissot fails to teach or suggest the

appellant's process (brief, page 7). This argument is not well taken because the patentability of the solution recited in product-by-process claim 16 is determined based on the product itself, not on the process for making it. See *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) ("If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process.").

The appellant argues that the solution recited in claim 16, because it is the product of an oxidation process, differs from seawater (brief, page 7; reply brief, page 1). The process recited in claim 19, which is used to make the solution recited in claim 16, and the process recited in claim 1, from which claim 19 depends, have the transition term "comprising", which opens the claims to non-recited steps. See *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981). The appellant's specification (page 5, lines 14-31) indicates that the processes encompassed by claim 19 include processes in which the ammonium is oxidized and products of

the oxidation of the iodine and the ammonium are destroyed or consumed. A brine solution prepared by the process of claim 19 including oxidation of the ammonium and removal of the oxidation products reasonably appears to be the same or substantially the same as Bissot's purified, saturated brine containing no detectable iodide. In such a case, whether the rejection is under 35 U.S.C. § 102 or § 103, the burden shifts to the appellant to provide evidence that the prior art product does not necessarily or inherently possess the relied-upon characteristics of the appellant's claimed product. See *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); *In re Fessmann*, 489 F.2d 742, 745, 180 USPQ 324, 326 (CCPA 1974). The reason is that the Patent and Trademark Office is not able to manufacture and compare products. See *Best*, 562 F.2d at 1255, 195 USPQ at 434; *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). Because the burden of providing such evidence has shifted to the appellant and the appellant has not carried this burden, we affirm the rejection of claim 16 under 35 U.S.C. § 102(b) over Bissot.

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Also, because anticipation is the epitome of obviousness, see *In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 83 (CCPA 1975); *In re Pearson*, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974), we affirm the rejection of this claim under 35 U.S.C. § 103 over Bissot.

*Rejections of claim 1 under 35 U.S.C. § 103
over Keating in view of Filippone and over the
combined teachings of Bissot, Keating and Filippone*

Keating discloses that iodide is converted to periodate during electrolysis of a salt solution or brine, and that when the iodide concentration in the salt solution or brine is greater than 0.5-1 ppm, enough periodate is formed and passes into the membrane to precipitate as the sodium salt near the cathode surface, thereby damaging the membrane. When barium is present in the brine, however, Keating teaches, iodide does little or no damage to the membrane because a barium-iodide product deposits harmlessly in the membrane as a very fine, highly insoluble precipitate which Keating believes to be barium periodate.

Keating is silent as to whether the salt solution or

brine contains ammonium. However, Filippone teaches that brine obtained from seawater or rock salt contains both iodide and ammonium (col. 1, lines 13-19; col. 1, line 67 - col. 2, line 4). Thus, it reasonably appears that Keating's salt solution and brine necessarily contain ammonium. If ammonium is not necessarily present in Keating's salt solution or brine, then the general disclosure by Keating that a salt solution or brine is used would have led one of ordinary skill in the art to use any common salt solution or brine including one obtained from ammonium-containing rock salt or sea water.

The examiner argues that when Keating's barium periodate deposits in the membrane, it is separated from the salt solution or brine (answer, page 5). The appellant's specification does not limit the term "separating" in the appellant's claim 1. Thus, when we give this term its broadest reasonable interpretation in view of the specification, see *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983), we conclude that it encompasses separation by deposition in a membrane as

disclosed by Keating. The appellant does not address this argument by the examiner but, rather, focus only on the examiner's alternative argument (answer, page 6) regarding removing barium periodate prior to electrolysis (reply brief, pages 2-3).

The appellant argues that Keating is speculative in that Keating merely states that he believes that the barium-iodine product is barium periodate (answer, pages 10 and 17). We are not convinced by this argument because establishing a *prima facie* case of obviousness requires only a reasonable expectation of success, see *In re O'Farrell*, 853 F.2d 894, 903-4, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988), and Keating's belief that the precipitate is barium periodate would have provided one of ordinary skill in the art with a reasonable expectation of success in using Keating's process to remove iodine as barium periodate.

The appellant argues that Keating's process is not a purification process (brief, pages 10 and 17). We are not convinced by this argument because Keating's removal of periodate from the solution as a precipitate in the membrane

is a purification of the solution.

The appellant argues that one of ordinary skill in the art would not have been motivated to combine Filippone's purification process with Keating's electrolysis process (brief, pages 11-12). Because Filippone is directed toward purifying an aqueous alkali metal chloride solution prior to electrolysis, one of ordinary skill in the art would have considered Filippone's disclosure in conjunction with Keating's disclosure directed toward electrolysis.

The appellant argues that given Filippone's teaching that excessive oxidation leading to the formation of IO_3^- is to be avoided (col. 2, lines 9-12), one of ordinary skill in the art would not have oxidized the iodine to periodate (brief, pages 12 and 19). As discussed above, however, one of ordinary skill in the art would have been led by Keating to use Keating's process to form barium periodate.

For the above reasons we conclude that the process recited in the appellant's claim 1 would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 over the applied prior art. Accordingly, we affirm the rejections of claim 1 over Keating in view of

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Filippone and over the combined teachings of Bissot, Keating and Philippone.

DECISION

The rejection of claims 18 and 20 under 35 U.S.C. § 112, fourth paragraph, is reversed. The rejections of claims 16 and 17 under 35 U.S.C. §§ 102(b) and 103 over Bissot, and the rejections under 35 U.S.C. § 103 of claims 1, 4 and 5 over Keating in view of Philippone, and claims 1-5, 7-14 and 16-20 over Bissot in view of Keating and Philippone and over Keating in view of Bissot and Philippone, are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136a).

AFFIRMED

EDWARD C. KIMLIN
Administrative Patent Judge

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